RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10 664854A

Source: 1706

Date Processed by STIC: 52606

ENTERED



IFW16

```
RAW SEQUENCE LISTING
                                                             DATE: 05/26/2006
                     PATENT APPLICATION: US/10/664,859A
                                                             TIME: 12:16:26
                     Input Set : A:\Q77377 seq.ST25.txt
                     Output Set: N:\CRF4\05262006\J664859A.raw
     3 <110> APPLICANT: BASLER, Konrad
     4
             BRUNNER, Erich
     5
             FROESCH, Barbara
             KRAMPS, Thomas
             PETER, Oliver
     9 <120> TITLE OF INVENTION: ESSENTIAL DOWNSTREAM COMPONENT OF THE WINGLESS SIGNALING
PATHWAY
             AND THERAPEUTIC AND DIAGNOSTIC APPLICATIONS BASED THEREON
    10
    12 <130> FILE REFERENCE: Q77377
                                                                           (pg.6)
    14 <140> CURRENT APPLICATION NUMBER: 10/664,859A
    15 <141> CURRENT FILING DATE: 2003-09-22
    17 <150> PRIOR APPLICATION NUMBER: US 09/915,543
    18 <151> PRIOR FILING DATE: 2001-07-27
    20 <150> PRIOR APPLICATION NUMBER: 60/221,502
    21 <151> PRIOR FILING DATE: 2000-07-28
    23 <160> NUMBER OF SEQ ID NOS: 25
    25 <170> SOFTWARE: PatentIn version 3.3
    27 <210> SEQ ID NO: 1
    28 <211> LENGTH: 6909
    29 <212> TYPE: DNA
    30 <213> ORGANISM: Drosophila lgs
    33 <220> FEATURE:
    34 <221> NAME/KEY: exon
    35 <222> LOCATION: (468)..(632)
    37 <220> FEATURE:
    38 <221> NAME/KEY: exon
    39 <222> LOCATION: (691)..(981)
    41 <220> FEATURE:
    42 <221> NAME/KEY: exon
    43 <222> LOCATION: (1456)..(1665)
    45 <220> FEATURE:
    46 <221> NAME/KEY: exon
    47 <222> LOCATION: (2394)..(4397)
    49 <220> FEATURE:
    50 <221> NAME/KEY: exon
    51 <222> LOCATION: (4679)..(4870)
    53 <220> FEATURE:
    54 <221> NAME/KEY: exon
    55 <222> LOCATION: (4927)..(6456)
    57 <400> SEQUENCE: 1
    58 acgagtgett etettattat gegagetgtt tattecaaag tatgttegea attttegaet
```

60 cctgctaaca taacgcacgg ttaaagcagg aacatttggg cctataagcc caaaatttca

62 ttagcttaat acgatgctcc gaagtgttat tgcatttgca catatacata aaattgtgac

64 atagaatagg agaattccac atacaaatac aaaaatacaa aatcctccag taaaatttaa

120

180

240

RAW SEQUENCE LISTING DATE: 05/26/2006
PATENT APPLICATION: US/10/664,859A TIME: 12:16:26

Input Set : A:\Q77377 seq.ST25.txt

Output Set: N:\CRF4\05262006\J664859A.raw

66 aacgatatcg tgttttgctt cgcgtatctc acgtgagatg taatcgcatg catatgagtg	300
68 gtgagtgcct gcgtgcagtt cctggtctaa atatgcttaa ttgcgttcgc cgacttcaaa	360
70 agcaataaaa cgatggattt taattgctac ttgagcaatt agccacacaa gggatcttgg	420
72 gaaggtcgat ttgaaggaat tcgatttcta ggatgctctc gacaaca atg ccc cgc	476
73 Met Pro Arg	
74 1	
76 agt cca acc caa caa cag ccg caa cca aac tcc gat gcc tcc tca aca	524
77 Ser Pro Thr Gln Gln Pro Gln Pro Asn Ser Asp Ala Ser Ser Thr	
78 5 10 15	
80 agt gca tct gga tca aat cct gga gca gcg atc gga aat ggg gac tcg	572
81 Ser Ala Ser Gly Ser Asn Pro Gly Ala Ala Ile Gly Asn Gly Asp Ser	
82 20 25 30 35	
84 gcg gcg agc aga agt tct ccg aag acc ctt aat agc gaa ccc ttt tct	620
85 Ala Ala Ser Arg Ser Ser Pro Lys Thr Leu Asn Ser Glu Pro Phe Ser	
86 40 45 50	
88 act ttg tcg ccg ggtaagactt gtattgattt ctctttgtcc ggaattataa	672
89 Thr Leu Ser Pro	
90 55	
92 caactttctg tgtttcca gat caa ata aaa ttg acg cca gaa gaa ggc act	723
93 Asp Gln Ile Lys Leu Thr Pro Glu Glu Gly Thr	
94 60 65	
96 gag aaa agc gga cta tca act agt gat aaa gct gcc act gga gga gcc	771
97 Glu Lys Ser Gly Leu Ser Thr Ser Asp Lys Ala Ala Thr Gly Gly Ala	
98 70 75 80	
100 cca ggc agt gga aat aat ctg ccc gag gga caa act atg cta agg cag	819
101 Pro Gly Ser Gly Asn Asn Leu Pro Glu Gly Gln Thr Met Leu Arg Gln	
102 85 90 95	
104 aac tot acg agc aca atc aac tog tgc cta gtc gct tot cca caa aac	867
105 Asn Ser Thr Ser Thr Ile Asn Ser Cys Leu Val Ala Ser Pro Gln Asn	
106 100 105 110	
108 tcc agt gaa cac tcg aat agc agc aat gtg tct gct aca gtg ggc ctt	915
109 Ser Ser Glu His Ser Asn Ser Ser Asn Val Ser Ala Thr Val Gly Leu	
110 115 120 125 130	
112 act cag atg gta gat tgt gac gag caa tcg aag aaa aac aaa tgt agt	963
113 Thr Gln Met Val Asp Cys Asp Glu Gln Ser Lys Lys Asn Lys Cys Ser	
114 135 140 145	
116 gtg aag gac gag gaa gct ggtaagactg ccctacaaat ggtttaaaat	1011
117 Val Lys Asp Glu Glu Ala	
118 150	
120 tttaaaatgt attggcgttc acctttgtta atcatttaat tgtttttttt ttgctatact	1071
122 tacaatttta gttttaaact tgtaaacttg actaaaactc gcgaagctcg gatcaaaaca	1131
124 gacattttct tggaaccgta attaagctca taaaaatatt aattcatctt gatggaatgc	1191
126 atatcataga tgtactcaaa catctcaaga aagacctcaa attggatcaa ctaattagtt	1251
128 tgagaaaaaa ttgctgtact tttaagaata tattaattta aaaatttgct gagtgaaatg	1311
130 atataatagt cacaataatt tttagttaaa ctgctaaagc attttgaata gccgtgctac	1371
132 gcagatgcta ctagacgcgg tgtaaaagct aatttttatt taaaagctgt cctaatattc	1431
134 cataaccatt aatgtcccat ttca gaa ata agt tct aat aaa gca aaa ggt	1482
135 Glu Ile Ser Ser Asn Lys Ala Lys Gly	1402
136 Stuffle Set Set Ash bys Ata bys Giy	
155 160	

RAW SEQUENCE LISTING DATE: 05/26/2006 PATENT APPLICATION: US/10/664,859A TIME: 12:16:26

Input Set : A:\Q77377 seq.ST25.txt
Output Set: N:\CRF4\05262006\J664859A.raw

															ttg		1530
139	Gln	Ala	Ala		Gly	Gly	Cys	Glu		Gly	Ser	Thr	Ser	Ser	Leu	Thr	
140				165					170					175			
															atg		1578
143	Val	Lys	Glu	Glu	Pro	Thr	Asp	Val	Leu	Gly	Ser	Leu	Val	Asn	Met	Lys	
144			180					185			•		190				
146	aaa	gaa	gaa	aga	gaa	aat	cat	tcg	cca	acg	atg	tcc	cct	gtt	ggt	ttt	1626
147	Lys	Glu	Glu	Arg	Glu	Asn	His	Ser	Pro	Thr	Met	Ser	Pro	Val	Gly	Phe	
148		195					200					205					
150	ggt	tca	att	ggt	aat	gca	cag	gac	aac	tcc	gct	aca	ccg	ggt	aagti	ttt	1675
151	Gly	Ser	Ile	Gly	Asn	Ala	Gln	Asp	Asn	Ser	Ala	Thr	Pro				
152	210					215					220						
154	aaga	agato	cca 1	tataa	aagca	aa at	taaca	aagaa	a tta	aatgi	tcag	ttad	ccaa	ttt	tatt	tgatag	1735
156	tcaa	aagaa	act a	actai	tage	ga ta	atct	cctg	c cti	tttaa	attt	tati	tta	att a	agga	aatacg	1795
158	aata	attt	cta a	attt	gtaa	aa ta	aaaa	ttgai	t taa	attaa	acta	gaat	tta	aaa a	accti	tttgaa	1855
160	ttag	ggaca	ata d	cccti	cca	aa aa	atca	gtaat	t cat	ttggg	gaac	gaga	agtg	tgg 1	tccc	gaagga	1915
											_	-				agttta	1975
164	ggaa	aaat	ggg 1	tgtaa	attt	tg ta	aggaa	agtti	t tca	attti	taga	agaa	aatg	tga i	ttati	ttatt	2035
		_		_		_		-			_	_	_	_		gttaag	2095
								_		_						tgattt	2155
																aaggtc	2215
		_		_						_		_			_	actctt	2275
174	ctq	acac	act 1	tcac	cacta	ac q	gga	attc	c qc	ccqca	aqtq	atti	tata	taq a	atgai	tttacg	2335
			-			_		_	_	_				_	ttta	_	2393
	_			•			_								aaa		2441
									_	_		_	_		Lys		
180			225					230			•		235	2		2	
	tca	tcc	tta	aca	atq	aat	aat		gaa	atq	agc	atq	gaa	aac	tgc	aat	2489
	_		_		_			_			_	_			Cys		
184		240					245	•				250		•	-		
186	caq	ttq	aat	ccc	qat	ttt	atc	aat	gaa	tct	tta	aat	aat	cct	gca	att	2537
		-			-				_						Ala		
	255					260					265					270	
190	tca	aqc	ata	tta	qta	agc	qqa	qta	qqa	cca	ata	ccc	qqa	atc	gga	att	2585
															Gly		
192					275		1		2	280			2		285		
	gga	aca	aaa	acq		aat	tta	tta	act		aac	acc	aat	gga	atc	tcc	2633
				_				_		_		_			Ile		
196	1		1	290	2				295					300			
	tica	aat	age		aat	tat	tta	gat		ata	caa	cag	caa		cac	ata	2681
															His		2002
200	001	013	305		11011	Cyb	DC u	310	-7-	1100	0111	0111	315	11011	*****		
	ttc	ata		tca	act	cad	cta		aac	222	aaa	acc		tca	gtt	tta	2729
															Val		2123
204	1110	320	1110	JUL	T.11	-111	325	A.L.C.	11011	פעה	Cry	330	Jiu	CCI	V 44 I	<u> </u>	
	acc		C22	+++	caa	ac+		att	aca	tat	cac		act	cac	cct	act	2777
															Pro		2111
	335	Gry	9111	FIIG	G111	340	116	116	n1a	- A -	345	Cys	TIIL	GIII	110	350	
		222	200	tta	ctc		asa.	+++	+++	at~		220	aat	++-	224		2825
210	aca	aaa	ayc	LLC	cug	yaa	yac	LLL	LLL	arg	aad	aac	CCC	LLd	aag	all	2020

RAW SEQUENCE LISTING DATE: 05/26/2006 PATENT APPLICATION: US/10/664,859A TIME: 12:16:26

Input Set : A:\Q77377 seq.ST25.txt
Output Set: N:\CRF4\05262006\J664859A.raw

211 212	Thr	Lys	Ser	Phe	Leu 355	Glu	Asp	Phe	Phe	Met 360	Lys	Asn	Pro	Leu	Lys 365	Ile	
214	aac	aaσ	tta	cag	caa	cac	aat	tcc	atc	aat.	atq	cca	t.aa	ata	ggc	atα	2873
						His											20.0
216	11011	_,,		370	**** 9		11011	DCI	375	Cly	1100	110	тър	380	Gry	Met	
	~~~	~~~	~++		a+ -												2021
						act					-	_					2921
	GIY	GIN		GIY	Leu	Thr	Pro		Asn	Pro	vai	Ala	_	тте	Thr	Gin	
220			385					390					395				
						aag											2969
	Gln	Gln	Pro	His	Thr	Lys	Thr	Val	Gly	Leu	Leu	Lys	Pro	Gln	Phe	Asn	
224		400					405					410					
226	caa	cat	gaa	aac	agc	aaa	cgt	agt	act	gta	agc	gcg	cct	agc	aac	tct	3017
227	Gln	His	Glu	Asn	Ser	Lys	Arg	Ser	Thr	Val	Ser	Ala	Pro	Ser	Asn	Ser	
228	415		_			420					425					430	
230	ttt	gtc	gac	cag	tct	gat	cct	atg	ggc	aac	qaa	act	qaa	ttg	atq	tgc	3065
						Asp											
232			•	•	435	-			•	440					445		
	taa	gaa	aac	gga	tcc	tca	aac	acc	agt.	agg	tct	gga	caa	aac		cga	3113
						Ser											
236			1	450					455	5		0_1		460		5	
	aat	cat	σta		ant	atc	ant	aca		acc	aaa	tca	cac		ata	220	3161
						Ile											3101
240	ASII	1113	465	чэр	Der	116	SCI	470	Der	DET	GIU	SEL	475	AIG	116	пуз	
-	2+2	ata		~~~	aat	~~~	~++		++~	~~~	a.a	a+ a			~~~	200	2200
		_	_	_	_	ggc	-	_	_		_	_				_	3209
	116		GIU	AId	мта	Gly		Asp	ьeu	GIY	GIII		TIII	цуѕ	GTA	ser	
244		480					485					490					2055
	_			_		act	_				_		_			_	3257
	_	Pro	GIY	ьeu	Thr	Thr	GIU	Asn	Asn	тте		ser	Leu	GIn	GIY		
	495					500					505					510	
		-		_	_	aac					_					_	3305
	Lys	Val	Pro	Asp		Asn	Leu	Thr	Pro		Gln	Arg	Gln	His	_	Glu	
252					515					520					525		
						ata			-							_	3353
	Glu	Gln	Leu	Ala	Lys	Ile	Lys	Lys	Met	Asn	Gln	Phe	Leu	Phe	Pro	Glu	
256				530					535					540			
258	aat	gag	aat	tca	gta	gga	gct	aat	gta	agc	tca	cag	ata	aca	aaa	att	3401
259	Asn	Glu	Asn	Ser	Val	Gly	Ala	Asn	Val	Ser	Ser	Gln	Ile	Thr	Lys	Ile	
260			545					550					555				•
262	cca	gga	gat	tta	atg	atg	ggg	atg	tcg	ggt	ggc	gga	ggc	gga	tct	att	3449
263	Pro	Gly	Asp	Leu	Met	Met	Gly	Met	Ser	Gly	Gly	Gly	Gly	Gly	Ser	Ile	
264		560	_				565			_	_	570	_	-			
266	ata	aat	ccq	acq	atq	cga	caa	ctq	cat	atq	cca	aat	aac	qcc	aaa	tca	3497
						Arg											
268						580					585	-			-	590	
		ctc	tta	tca	aca	aca	agt	tca	gga	ctt		gaa	αat	αta	ato		3545
						Thr											
272					595				1	600					605		
	CCa	aaa	aat	att		tca	at	ato	aat		at =	ata	aa=	tat		aat	3593
						Ser											2293
213	FIO	GTÅ	veh	val	116	26T	voh	1-1 <del>C</del> C	GIY	лта	val	TTG	GTA	Cys	WOII	VOII	

RAW SEQUENCE LISTING DATE: 05/26/2006
PATENT APPLICATION: US/10/664,859A TIME: 12:16:26

Input Set : A:\Q77377 seq.ST25.txt

Output Set: N:\CRF4\05262006\J664859A.raw

276				610					615					620			
	aat	caa	aaa		agt	ata	caa	tat		tct	aaa	αta	aat		atc	act	3641
	Asn																3011
280		<b></b>	625		001	141	01	630	O ₂	561	O ₁	141	635	VUI	VUI	1111	
	gga	aca		gca	act	gga	αta		atc	aat	atα	cat		tca	agc	tcc	3689
	Gly																3003
284	0-7	640				013	645		• • • •	******		650	Cys	UCI	UCI	JCI	
	ggc		cca	aat	ggc	aat		ato	gga	agc	tct		gat	ato	cta	acc	3737
	Gly																3,3,
	655				017	660			0-1	001	665		1101		Leu	670	
	tcg	ttt	aac	aac	aca		tac	aac	atc	atc		acq	acc	cca	gat		3785
	Ser					_	_		_			_	_		_	_	3,03
292			0-7		675		0,0			680					685		
	tct	aaσ	σаа	at.t.		aat	caa	gat	agc		acc	cat	tica	cat		ggg	3833
	Ser	_	_	_				_	_	_							3033
296	001	_, 5	014	690			<b></b>		695				001	700	<b>01</b>	OL,	
	gga	at.t.	act		ata	gag	t.aa	t.ca		att	caa	cat	caa		ttc	gaa	3881
	Gly																5002
300	0-1		705	<b></b>		0_4		710	_,_		<b></b>		715			014	
	gaa	cac		aaσ	aaa	aac	aag		aga	caa	atc	act.		act	αta	gta	3929
	Glu																
304		720		-1-	1	1	725		5			730	<b></b> 1				
	cca		cag	caa	acc	cct.	. – –	gga	tct	aat.	ада		t.ca	tta	aac	aac	3977
	Pro																
	735	-		-		740		2		1	745					750	
	cag	ata	cga	ccc	cta		aat	cca	cct	cct	_	tac	cac	tcc	atc		4025
	Gln																
312			J		755					760		- 2			765		
314	aga	tct	qcq	tca	qta	cca	ata	qcc	act	caa	tcq	ccc	aat	ccc	tcq	aqt	4073
	Arg																
316	_			770					775					780			
318	cca	aac	aat	cta	tct	ctc	ccg	tca	ccq	cgg	aca	acc	qca	qca	gtc	atq	4121
	Pro																
320			785					790		_			795				
322	gga	ttg	ccg	acc	aac	tct	cct	agc	atg	gat	gga	aca	gga	tca	tta	tct	4169
323	Gly	Leu	Pro	Thr	Asn	Ser	Pro	Ser	Met	Asp	Gly	Thr	Gly	Ser	Leu	Ser	
324		800					805					810					
326	gga	tct	gtt	ccg	caa	gct	aat	act	tcg	acg	gtt	cag	gca	ggc	aca	aca	4217
327	Gly	Ser	Val	Pro	Gln	Ala	Asn	Thr	Ser	Thr	Val	Gln	Ala	Gly	Thr	Thr	
328	815					820					825					830	
330	aca	gtg	ctc	tca	gca	aac	aag	aac	tgt	ttt	cag	gca	gac	acc	cca	tcg	4265
331	Thr	Val	Leu	Ser	Ala	Asn	Lys	Asn	Cys	Phe	Gln	Ala	Asp	Thr	Pro	Ser	
332					835					840					845		
	ccg																4313
335	Pro	Ser	Asn	Gln	Asn	Arg	Ser	Arg	Asn	Thr	Gly	Ser	Ser	Ser	Val	Leu	
336				850					855					860			
338	acg	cat	aac	tta	agc	agc	aac	cca	agt	acc	CCC	tta	tct	cat	cta	tcc	4361
339	Thr	His	Asn	Leu	Ser	Ser	Asn	Pro	Ser	Thr	Pro	Leu	Ser	His	Leu	Ser	
340	•		865					870					875				

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 05/26/2006
PATENT APPLICATION: US/10/664,859A TIME: 12:16:27

Input Set : A:\Q77377 seq.ST25.txt

Output Set: N:\CRF4\05262006\J664859A.raw

## Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:24; Xaa Pos. 1,2,7,8,12,15,18,21,22,25,26,27 Seq#:25; Xaa Pos. 1,2,4,5,6,8,9,13,14,16,17,18,19,20,21,22,23,24,28,29,30 Seq#:25; Xaa Pos. 31,32,33 VERIFICATION SUMMARY

PATENT APPLICATION: US/10/664,859A

DATE: 05/26/2006 TIME: 12:16:27

Input Set : A:\Q77377 seq.ST25.txt

Output Set: N:\CRF4\05262006\J664859A.raw

L:2203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0

M:341 Repeated in SeqNo=24

L:2249 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:0

M:341 Repeated in SeqNo=25